

Studies in the Treatment of Malaria

IV.—Intramuscular Injections of Amylopsin and Trypsin in Simple Tertian Malaria

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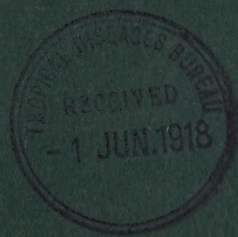
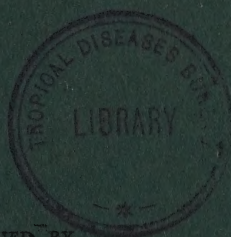
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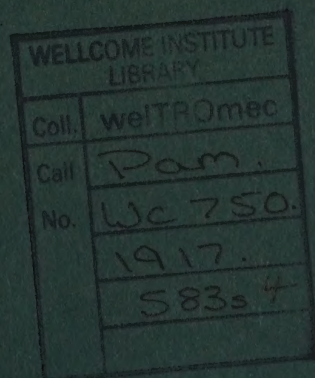
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STUDIES IN THE TREATMENT OF MALARIA

IV. INTRAMUSCULAR INJECTIONS OF AMYLOPSIN AND TRYPSIN IN SIMPLE TERTIAN MALARIA

BY

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Lambelle (1913) stated that he had treated successfully twelve cases of malaria, British soldiers in Upper Burma, by intramuscular injections of the ferments amylopsin and trypsin.

Fretz (1914) records the results of treatment of nineteen cases by this method. He writes: 'Far from being, as I had hoped, of the nature of a *sterilisans magna*, I found that it was in some cases rather a useless and painful operation. It, however, seems undoubtedly to have some effect on the parasites in fresh infections, and better results were obtained in those cases with a longer interval between the injections.'

In view of these conflicting statements we determined to put the treatment to the test. The preparations used by us were Injectio Trypsini and Injectio Amylopsini, Fairchild Bros. and Foster, as recommended by Lambelle. The contents of one ampoule of trypsin and one of amylopsin were taken up in a 10 c.c. syringe, which was then filled with normal saline. The injection was made into the muscle below the spine of the scapula. In every instance the injection was given between 10 and 11 a.m. Where more than one injection was given the interval between the injections was two days.

SIMPLE TERTIAN MALARIA (Cases 73-82)

All the cases were adult males infected in Macedonia, at least six months previously, and all had had more or less quinine during this period.

The observations made in the individual cases are recorded in the following charts and table.

In these charts and table:—

A.T. = intramuscular injection of amylopsin and trypsin.

T. = simple tertian trophozoites or schizonts.

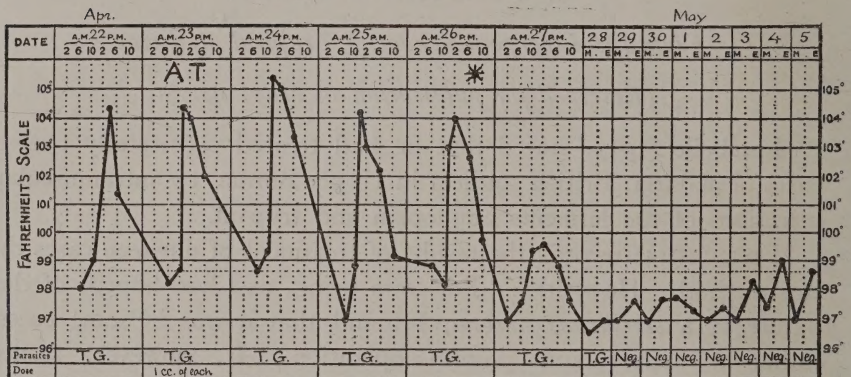
G. = simple tertian gametes.

cr. = malignant tertian gametes.

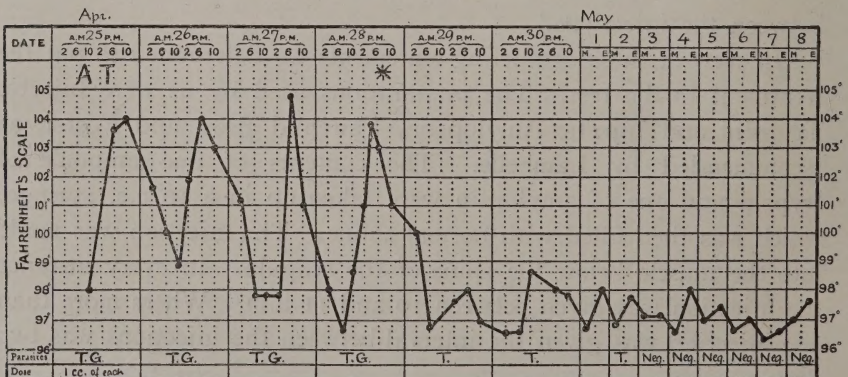
Neg. = No parasites found.

* = quinine sulphate orally given daily.

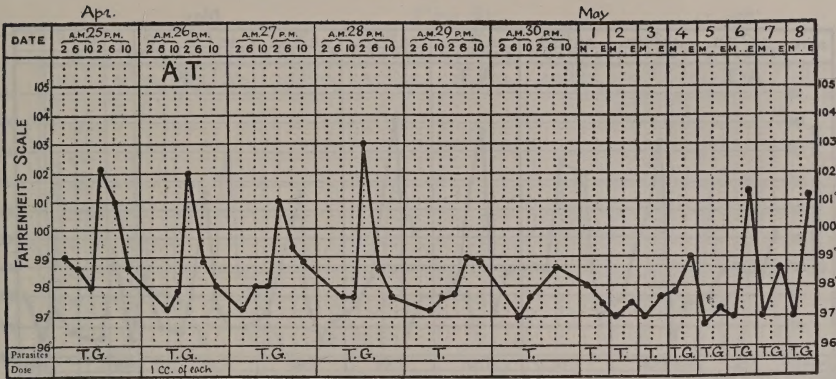
CASE 73.



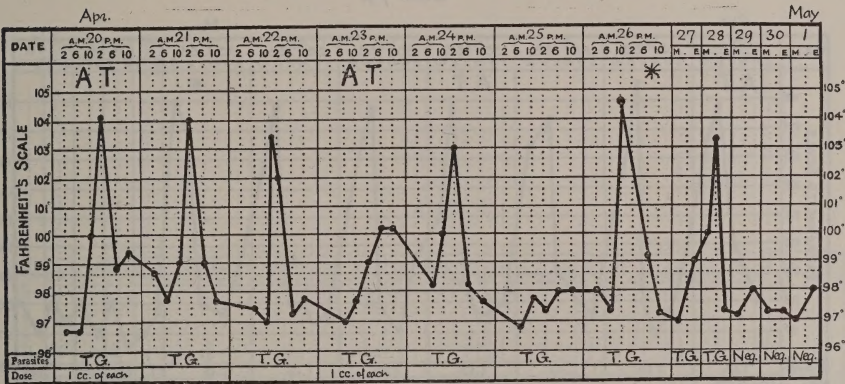
CASE 74.



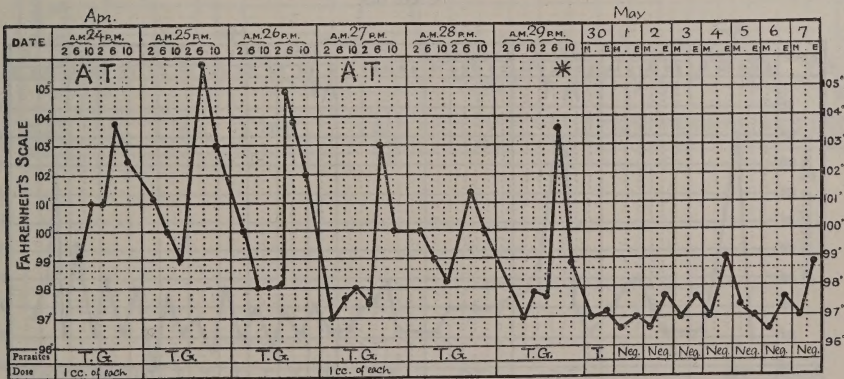
CASE 75.



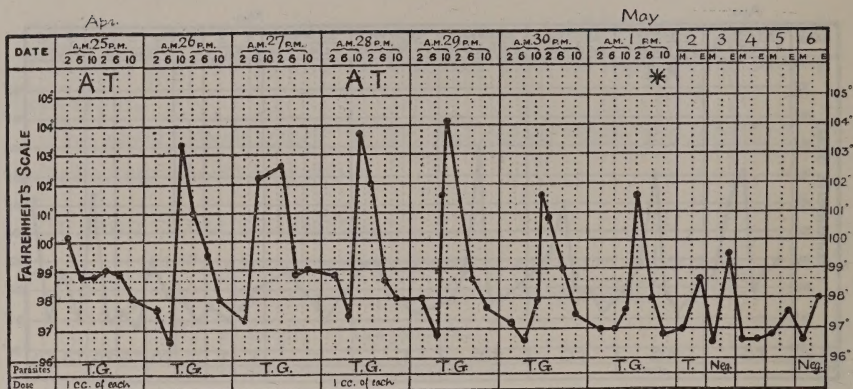
CASE 76.



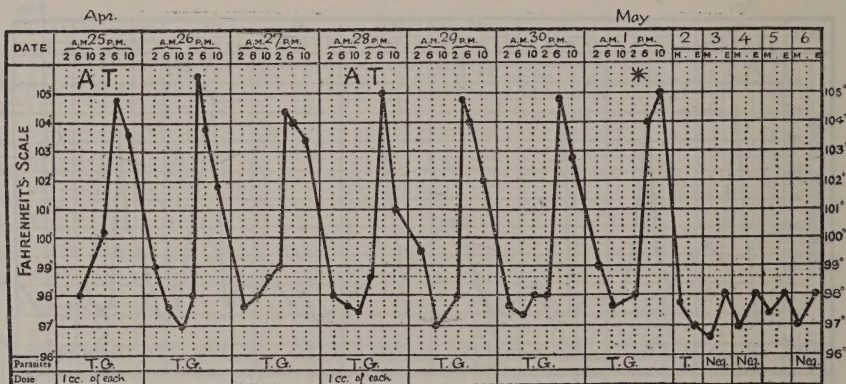
CASE 77.



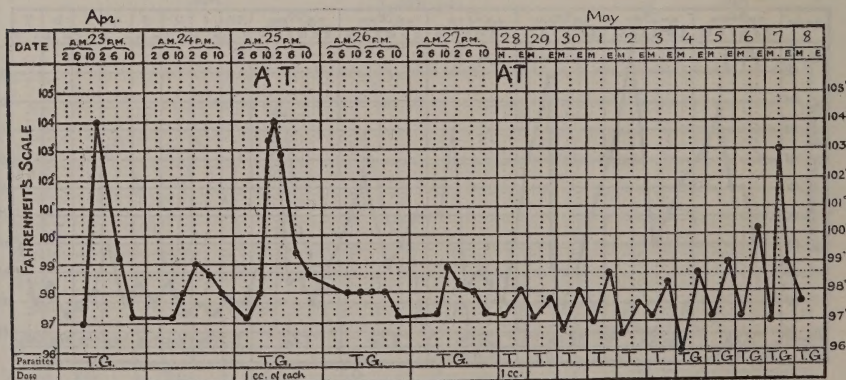
CASE 78.



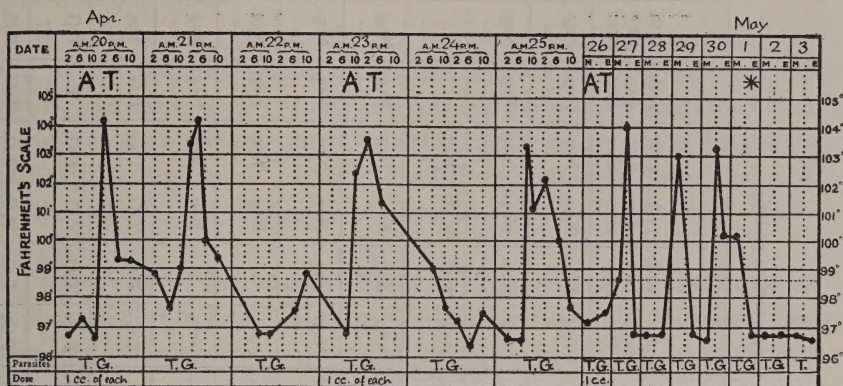
CASE 79.



CASE 80.



CASE 81.



CASE 82.

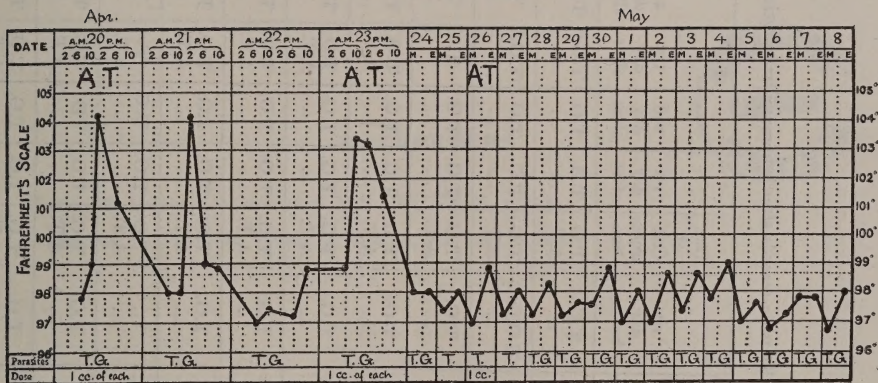


TABLE
Parasitic records after intramuscular injections of amylopsin and trypsin in simple tertian malaria.

[illegible]

Blood examinations were made daily in all ten cases. In no instance did the treatment cause the disappearance of parasites from the cutaneous blood.

In seven cases (73, 74, 76, 77, 78, 79 and 81) rigors continued, and as the patients' condition became serious quinine sulphate was given. In three cases (75, 80 and 82) the paroxysms subsided either during or after the treatment, whether as the result of the treatment or not it is impossible to say; in all three, parasites have persisted in the blood, and within ten days two have already had febrile relapses.

Effects of the Injections. Some swelling and tenderness occurred at the site of injection. On this account, and because the paroxysms were not checked, the majority of the patients refused to have more than one or two injections.

CONCLUSION

Intramuscular injections of amylopsin and trypsin proved to be of no value in the treatment of these ten cases of acute simple tertian malaria.

REFERENCES

FRETZ, W. L. (1914). *Journ. R.A.M.C.*, Vol. XXIII, p. 518.

LAMBELLE, F. W. (1913). *Journ. R.A.M.C.*, Vol. XXI, p. 660.



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In seven cases (73, 74, 75, 76, 77, 78, 79 and 81) rigor continued, and as the patients' condition became serious quinine sulphate was given. In these cases (75, 80 and 81) the parasites subsided either during or after the treatment, whether as the result of the treatment or not it is impossible to say; in all three parasites have persisted in the blood, and within ten days two have already had further relapses.

Effects of the injections. Some swelling and tenderness occurred at the site of injection. On this account, and because the parasites were not checked, the majority of the patients refused to have more than one or two injections.

CONCLUSION

Intramuscular injections of amylophos and trypan proved to be of no value in the treatment of these ten cases of acute simple tertiary malaria.



REFERENCES

1. *Ann. R. Soc. Med.*, 1914, vol. 7, p. 146.
2. *Ann. R. Soc. Med.*, 1914, vol. 7, p. 147.

